

REMARKS

Attorney for Applicants wishes to thank the Examiners for the courtesy of the interview on July 31, 2007, the substance of which is included in these Remarks, and for their helpful suggestions to advance the prosecution of this application.

All independent Claims 1, 14, 19, 33, 37, 43, and 51-56 have been amended to better define and clarify the invention (and to eliminate unnecessary limitations) by characterizing the electronic transactions to which the invention pertains as being electronic commerce transactions which comprise messages exchanged between a client and a server, and to define the failure masking of the invention as providing an expected response to an electronic commerce transaction message. Additionally, a number of the dependent claims have been amended for consistency, and Claim 18 has been cancelled.

For the reasons discussed during the interview, and set forth below, it is respectfully submitted that none of the cited references, individually or in combination, teaches or suggests these aspects of the claimed invention, and these references cannot render the claimed invention considered as a whole obvious and unpatentable. Accordingly, favorable reconsideration of this application is respectfully requested.

As described at the interview, the present invention is directed to electronic transaction assurance (eTA) systems, method and program products for processing electronic commerce (“e-commerce”) network transactions which comprise messages exchanged between a client and a server. The eTA systems, methods

and products are disposed between the client and the server, and ensure that, in the event of a failure, recovery and resumption of the transactions occur from the actual state of the transaction at which the failure occurred, and that failures are masked by providing expected response messages. Assuring that e-commerce transactions are correctly and completely processed, and masking failures, are important aspects of the invention. Transaction failures adversely impact a user's view of the security, accuracy and safety of e-commerce transaction processing, and can lead to a user's hesitancy to use or outright avoidance of an on-line e-commerce transaction processing system.

The invention avoids these problems by preserving the actual state of a transaction at a failure, electing an appropriate action to recover for the failure based upon the actual state, and masking the failure by providing an expected response to a transaction request. The claims have been amended to emphasize these aspects of the invention. None of the cited prior art teaches or suggests the claimed method, system or program product, and it is submitted that this prior art cannot render the claims unpatentable.

The Rejections Under 35 U.S.C. §103 Are Traversed

Independent Claim 1

Independent Claim 1 is directed to a method of processing electronic commerce transactions comprising request messages and responses exchanged between a client and a server, and the claim includes the following limitations:

- determining whether an outcome of the electronic commerce transaction in relation to the request message has failed, and the actual state of the electronic commerce transaction at the failure,
- selecting an appropriate recovery action based upon the actual state at failure, and
- transmitting a response message to the client, where the request message masks the failure by providing an expected response to the request message.

None of Lin (2002/0073211), Frolund (6,382,617), or Kashyup (2002/0087912) individually or in combination, teaches or suggests a method as set forth in Claim 1.

In particular, first, none of the references relates to electronic commerce transactions comprising request and response messages. Secondly, none of the references teaches or suggests determining whether an outcome of the electronic commerce transaction in relation to a request message has failed, and the actual state at failure. And, third, none of the references teaches or suggests transmitting a response message to the client that masks the failure by providing an expected response to the request message.

Lin detects a failed connection between a web browser and a server, not a failed e-commerce transaction, and attempts to reconnect to the web server or assigns a new server to continue a session if the web server is shut down. (See Lin [0035]).

Lin does not disclose or suggest selecting a recovery action based on the actual state of an e-commerce transaction at a failure, as claimed. As recognized by the Office (page 4, 4th paragraph of the Office Action), Lin does not disclose determining whether an outcome of a transaction has failed, much less selecting an appropriate recovery action based upon the actual state of the transaction at the failure, as claimed. Rather, upon loss of a connection, Lin merely reconnects to the server or assigns a new server, i.e., establishes a new connection.

Frolund is directed to a standard well-know two-phase commit protocol for use in replicated database systems, where a client application queries and updates a database. Frolund's protocol comprises a series of handshaking messages and responses between client applications, server applications and database systems, as best shown in Figures 2-4. If a failure occurs during processing of a request prior to its completion, as detected by the failure to receive an "outcome" message at a server, the transaction is aborted by sending a "roll-back" command to the database systems. This terminates the transaction and causes it to be retried against a different server. (See col. 6, line 61 – col. 7, line 10. See also col. 7, lines 30-37; and col. 8, lines 1-15.)

Thus, Frolund's disclosure is similar to Lin's disclosure, since upon a failure occurring, Frolund terminates (aborts) the transaction and sends a new request to retry the transaction at a different server. Frolund discloses nothing about selecting recovery action based upon the actual state of a transaction at a failure, and does not disclose masking the failure by transmitting a response message to the client that provides an expect response to the client's request message, as claimed.

Kashyup is similar to Lin in that it relates to a fail-over approach for TCP connections in a peer-to-peer network, and discloses that if a first system running an application crashes, a second peer system assumes the first connection and continues with the application from the point of failure (paragraph [0008]). Thus, Kashyup, like Lin, relates to recovery of a failed connection, not failure of an e-commerce transaction, and does not disclose or suggest transmitting a response message to a client providing an expected response to the client's request message to mask a failure of the transaction.

Thus, not only do none of the Lin, Frolund or Kashyup references teach or suggest the invention of Claim 1 as a whole (including all of the limitations of the claim), it is respectfully submitted that no logical combination of the references would produce the claimed invention.

In particular, the combined references do not teach or suggest any of the three limitations discussed above, comprising: (1) determining failure of an outcome of an electronic commerce transaction in relation to a request message; (2) selecting a recovery action based upon the actual state at the failure; and (3) transmitting a response message to the client with an expected response to the client's request message to mask the failure, as claimed.

Rather, the logical combined teachings of the references would be to use Frolund's two-phase commit protocol to detect a connection failure in the Lin and Kashyup connection fail-over approaches, which is not what is claimed. If the Office contends otherwise and repeats the rejection, it is respectfully requested that the

Examiner point out explicitly where in the references each limitation of each rejected claim is taught, and explain why one skilled in the art would make the proposed combination. It is respectfully pointed out to the Examiner that the fact that references are in analogous arts does not mean that their teachings can be combined in the manner claimed. There must be some logical reason one skilled in the art would do so.

Dependent Claims 2-13

Claims 2-13 depend from Claim 1 and are deemed allowable for at least the same reasons. Moreover, Claim 11 explicitly characterizes the electronic commerce transaction as “adding an item to a shopping cart”, and “recording the contents of the shopping cart using data contained in the request message”. None of the cited prior art has anything to do with this.

Independent Claims 14, 19, 33, 37, 51-56

Independent Claims 14, 19, 33, 37, 51-56 all have limitations similar to the limitations of Claim 1 discussed above. All claims relate to electronic commerce transactions comprising messages exchanged between clients and servers; and all require masking a failure by providing a response message to a client (or customer). Thus, these independent claims are deemed allowable over the cited prior art for at least the same reasons that Claim 1 is allowable.

Moreover, each of independent Claims 14, 19, 33, 37, 51-56 has different limitations from Claim 1 and from each other which are also not shown or suggested by the prior art of record, and a rejection of these independent claims “based upon

the rationale of (another claim)” is improper and fails to establish a *prima facie* basis for the rejections as required. If the Office repeats a rejection of any of these claims, it is requested that the Examiner explicitly address each and every limitation of the rejected claims and establish a proper *prima facie* basis for the rejection.

The newly cited U.S. Patent 6,065,017 to Barker relates to identifying and recovering from database errors, not transaction failures, by updating replicas of databases on a network based upon their “integrity states”. The disclosed “integrity states” of Barker have nothing to do with the states of an electronic commerce transaction, and teach nothing about determining transaction states, as claimed. Rather, as disclosed at column 10, line 62 – column 11, line 3, and as shown in Figure 3, the term “integrity state” in Barker refers to the integrity of a database element, i.e., whether it has been damaged and or repaired. Although Barker uses the term “state”, the term is used in a different context and has a completely different meaning from the claims, and the reference has no teaching applicable to the claimed invention.

Dependent Claims 15-17, 20-32, 34-36, 38-42, and 44-50 depend from independent Claims 14, 19, 33, 37 and 43, respectively, are likewise deemed allowable over the cited art for at least the same reasons that their corresponding independent claims are allowable.

In view of the foregoing, it is respectfully submitted that the various rejections are overcome, and that this application is in condition for allowance. Accordingly,

favorable reconsideration of this application is requested, and early allowance of all claims is solicited.

Enclosed is a separate Petition for Extension of Time and the extension fee.

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Respectfully Submitted,

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